

Title (en)

CONTROL DEVICE AND CONTROL METHOD FOR SYNCHRONOUS ELECTRIC MOTOR

Title (de)

STEUERVORRICHTUNG UND STEUERVERFAHREN FÜR EINEN ELEKTRISCHEN SYNCHRONMOTOR

Title (fr)

DISPOSITIF DE COMMANDE ET PROCÉDÉ DE COMMANDE POUR MOTEUR ÉLECTRIQUE SYNCHRONE

Publication

EP 3683958 A4 20210428 (EN)

Application

EP 18856474 A 20180514

Priority

- JP 2017176702 A 20170914
- JP 2018018447 W 20180514

Abstract (en)

[origin: EP3683958A1] Provided is a control device for a synchronous electric motor for performing a PWM drive control without performing current feedback, which has a configuration capable of stably driving the synchronous electric motor in any rotation speed region. The control device 1 includes a torque clamp generator 40 configured to set a torque clamp value, a command generator 10 configured to generate a voltage command based on a rotation speed command and the torque clamp value without feeding back a current flowing through the synchronous electric motor 2, a PWM signal generator 20, and an inverter part 30. The torque clamp generator 40 sets a start time limit value as the torque clamp value in a startup region of the rotation speed of the synchronous electric motor 2, and sets a normal time limit value as the torque clamp value in a region other than the startup region of the rotation speed of the synchronous electric motor 2. The start time limit value is larger than the normal time limit value and larger than the torque clamp value capable of continuously rotating the synchronous electric motor 2 at the rotation speed in the startup region.

IPC 8 full level

H02P 25/024 (2016.01); **H02P 21/06** (2016.01); **H02P 21/34** (2016.01); **H02P 27/08** (2006.01)

CPC (source: EP US)

H02P 21/18 (2016.02 - US); **H02P 21/20** (2016.02 - EP); **H02P 21/34** (2016.02 - EP US); **H02P 27/12** (2013.01 - US); **H02P 2207/055** (2013.01 - US)

Citation (search report)

- [YDA] JP 2012055032 A 20120315 - SINFONIA TECHNOLOGY CO LTD
- [Y] JP 2003033068 A 20030131 - HITACHI LTD
- [A] JP 4467520 B2 20100526
- See references of WO 2019053944A1

Cited by

GB2618927A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3683958 A1 20200722; **EP 3683958 A4 20210428**; CN 111095775 A 20200501; CN 111095775 B 20230421; JP 2019054621 A 20190404; JP 6963172 B2 20211105; US 11196373 B2 20211207; US 2020274474 A1 20200827; WO 2019053944 A1 20190321

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